Septage Management in Urban India

Conceptual Clarity

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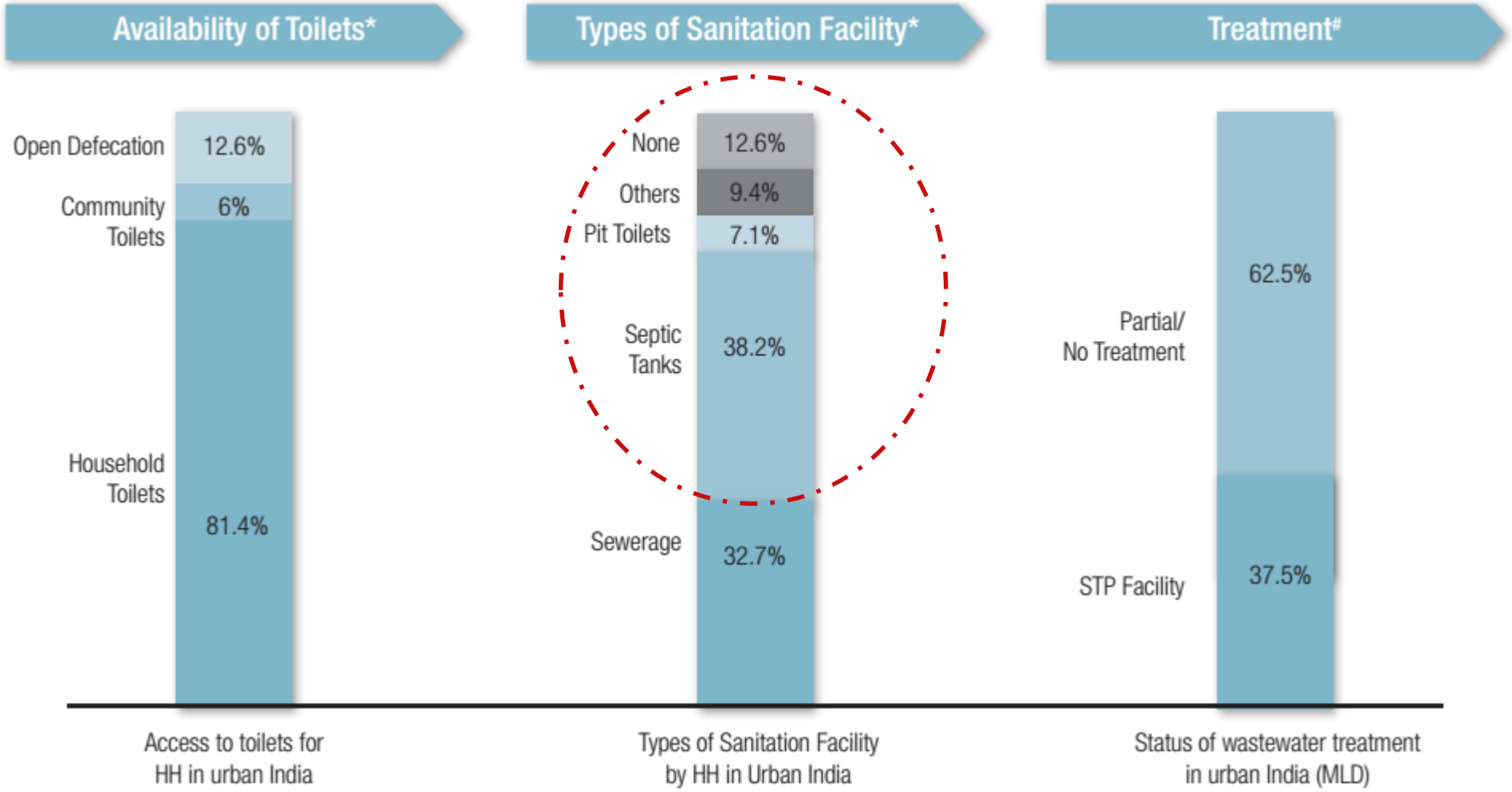
Why Septage Management for urban India ?



Faecal sludge and Septage

Faecal sludge :
Faecal sludge includes contents of onsite sanitation systems like pit latrines, septic tanks, aqua privies and dry toilets.

Septage :
Commonly refers to liquid and solid material that is pumped from a septic tank. It is the combination of scum, sludge, and liquid that accumulates in septic tanks.

In other words, faecal sludge from septic tanks is known as septage, but faecal sludge and septage are interchangeably used in India.

Legacy of Septage Management in India

1985 : IS 2470 Indian Standard Code of Practice for Installation of Septic Tanks

2008 : National Urban Sanitation Policy (NUSP)

2013 : CPHEEO Manual on Sewerage and Sewage Treatment Systems

Advisory Note – Septage Management in Urban India

The Prohibition of Employment as Manual Scavengers and their Rehabilitation Act

2015 : Atal Mission for Rejuvenation and Urban Transformation (AMRUT)

2016 : Primer on Faecal Sludge and Septage Management

2017 : National Policy on Faecal Sludge and Septage Management

2018 : Swachh Survekshan

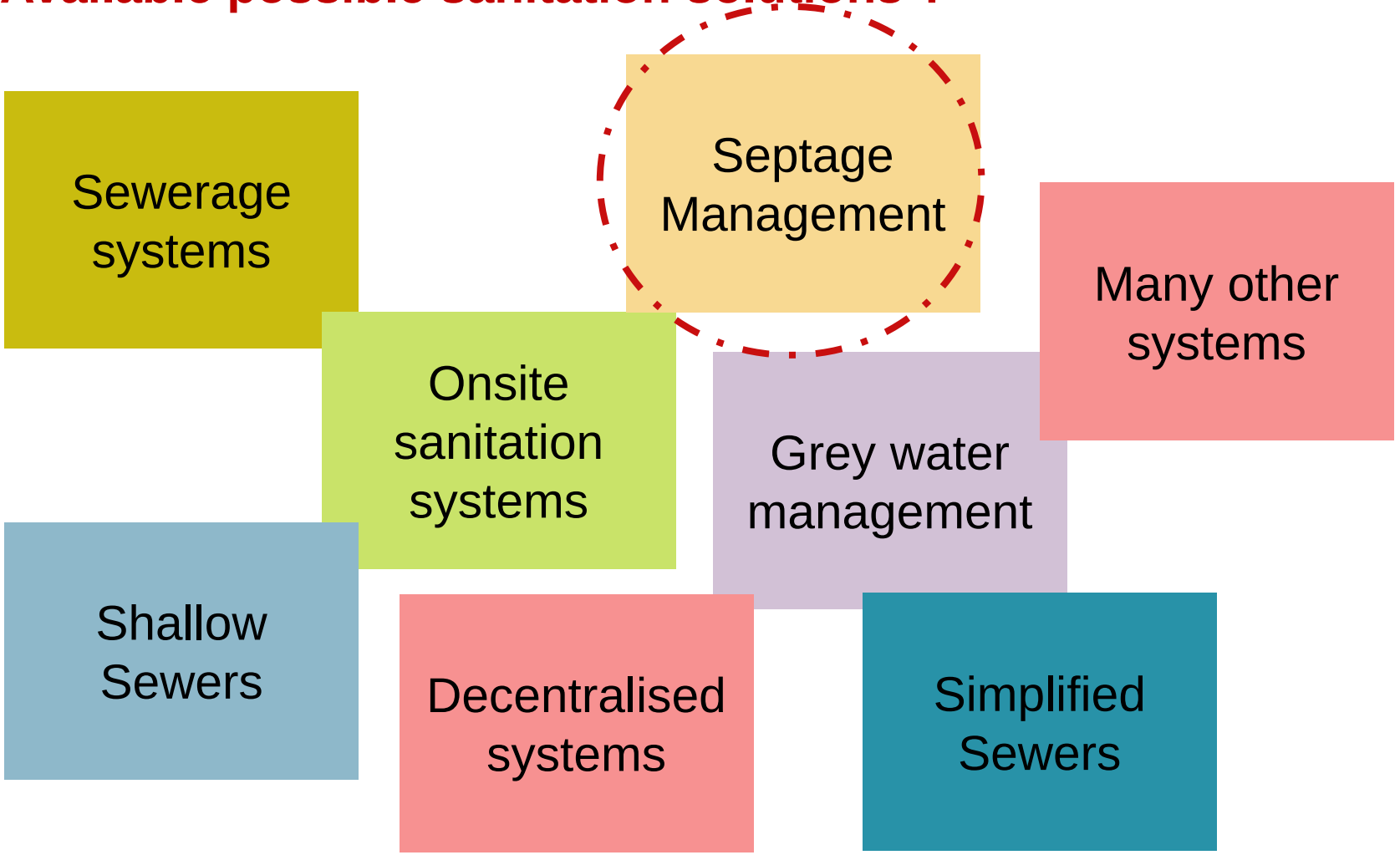
Conceptual clarity ?

Sewerage systems are not possible in all towns of India
and even it may not meet the complete sanitation needs in all areas within a town.

A strategy, therefore, needs to be a combination of various sanitation solutions co-existing in all cities to achieve the objective of safe and sustainable sanitation for all.

At this juncture, it becomes very fundamental (especially for decision makers) to have basic conceptual clarity (of available sanitation solutions/options) before arriving at a decision on the selection of a suitable sanitation system for a town.

Available possible sanitation solutions ?

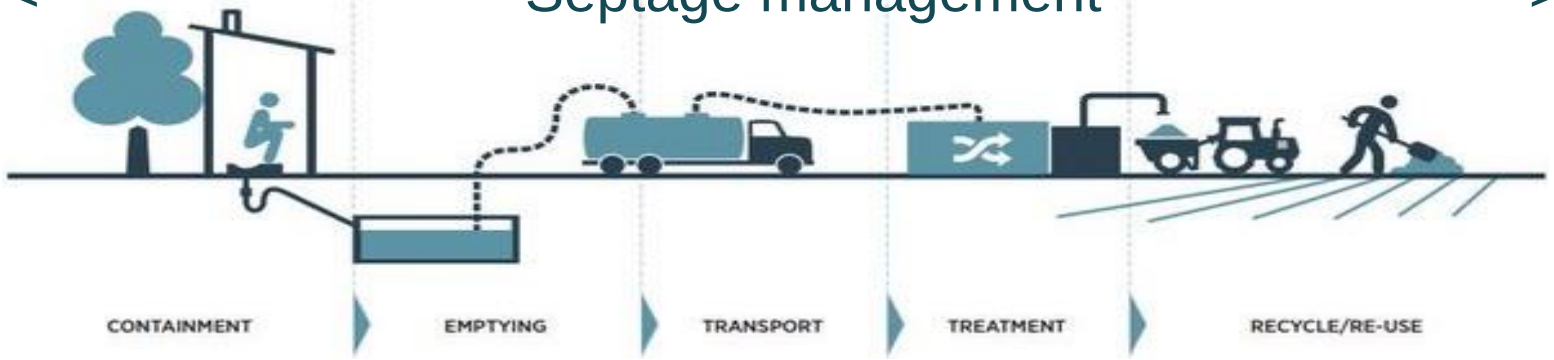


Points for Discussion for Conceptual Clarity

1. Is Septage management a complete sanitation solution ?

Complete sanitation solution = Safe management of all wastewater streams (blackwater & greywater) emanating from households

< ---------- Septage management ---------- >



The effluent from septic tanks & greywater from households is not included is septage management

It would not be incorrect to say ‘ Septage management’ alone helps in achieving cleaner environment without contributing to cleaner towns

Additional sanitation system is required in combination with septage management for a complete sanitation solution

2. What is the real cost of Septage management ?

Generally, people are of the opinion that cost of septage management is very low compared to an underground sewerage system.

Septage Treatment Plant < Sewerage network + Sewage Treatment Plant

Septage Management	Underground sewerage system
a. Septic tanks b. Septage emptying & transportation vehicles c. Septage treatment plant d. Conveyance, treatment & safe disposal of effluent from septic tanks & grey water from households	a. Connecting household to sewer network b. Sewer network & pumping stations c. Sewage treatment plant

For real comparison of cost, the costs for end to end solution needs to be considered

3. Are the existing septic tanks in India really septic tanks ?

Well, we all know the answer here !!

Often septic tanks in India

- Are not designed as per standards
- Have leaking sides and/or open bottoms
- Are not regularly emptied, etc.

The improperly designed, constructed & maintained septic tanks and pit latrines are the major contributors to groundwater and surface water pollution

For effective and efficient septage management, these improper septic tanks needs to be repaired, retrofitted or replaced

Given the size and complexity of the problem, how can this (improvement of septic tanks) be achieved ?

4. Is it possible to regularize septage emptying private operators without having treatment facilities in towns ?

The septage emptying & transportation business in India is generally managed by informal small-scale private operators

The septage emptying & transportation business needs to be regularised

As per CPCB, approx. 500 towns only in India have functional STPs

Is it possible to regularize septage emptying private operators in towns without having treatment facilities ?

This is a very sensitive & tricky question for the Government !!!!!

5. Are the right standards in place for safe reuse of treated septage in agriculture ?

The **'Advisory Note - Septage Management in Urban India' (MoUD, 2013)** states that 'For dewatered septage/ sludge use as fertilizer in agriculture application, it should satisfy the criteria of Class A Bio-solids of US EPA.
In the absence of any standards, it is recommended that these be adopted until such time standards are notified by the CPCB'.

The **'National Policy on FSSM' (MoUD, 2017)** states ' the SWM Rules 2016 will apply for disposal and treatment of faecal sludge and septage, before or after processing, at landfills and for use as compost'

For reusing the dewatered and treated septage (sludge) in agriculture, particular care should be given to pathogen reduction

Knowledge of Land application is very crucial.

Further clarity (standards / norms) on reuse of treated septage for agriculture application would be much appreicated

6. Is co-composting of septage and municipal organic waste allowed in India ?

Co-composting of dewatered septage together with municipal organic solid waste is a well-established technology in the sanitation sector outside India

However, this process needs proper policy guidelines, stringent regulations, standards and above all community awareness

Clear national guidelines (policies, regulations, standards) on co-composting of septage and municipal organic solid waste would bring the much-needed clarity in the sanitation sector in India

7. Are the Government approved environment laboratories prepared for testing septage samples ?

The present Government approved environment laboratories in India are well equipped to test and analyze sewage samples

In contrast to sewage characteristics that are already well known, the availability of septage characteristics is very limited. The organic matter, total solids, ammonium, and helminth egg concentrations in septage are typically higher by a factor of ten or a hundred compared to domestic sewage

Experience with one environment laboratory

- the laboratory personnels were reluctant to test the septage samples due to its highly foul nature. They exclaimed the samples resembled to 'pathological samples' and not 'wastewater samples'.
- the laboratory was not equipped to test helminth eggs

Government approved environment laboratories could be better informed & equipment for supporting the septage management sector

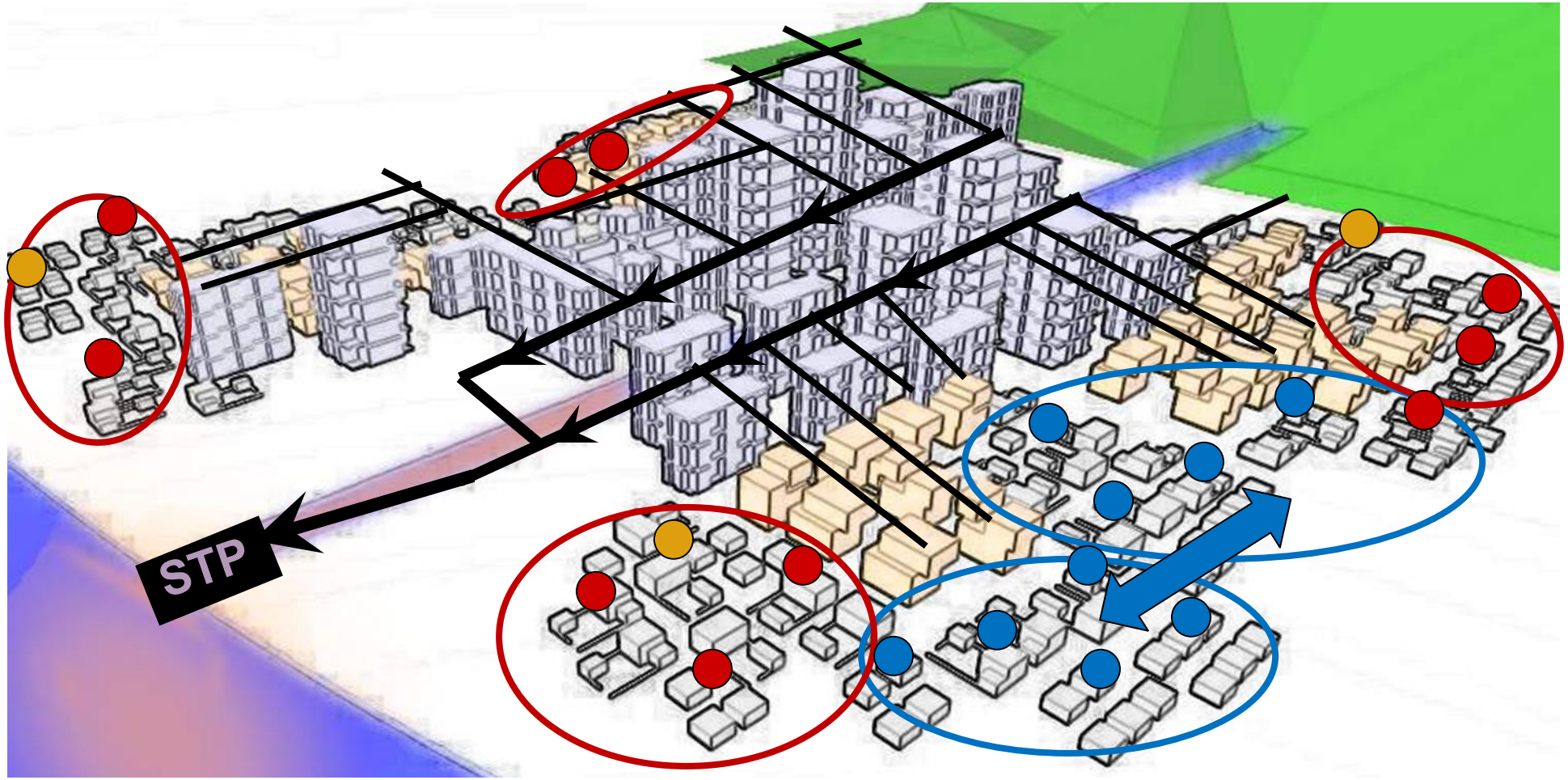
Conclusion

Various sanitation solutions must co-exist to achieve the objective of safe and sustainable sanitation for all.

To arrive at a most suitable sanitation solution for a project area, it is very fundamental to have basic conceptual clarity on the available sanitation solutions.

To achieve the goal of complete sanitation for towns, septage management is one of the available sanitation options (in combination with other sanitation solutions)

Coexistence of various sanitation alternatives



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NUSP NATIONAL URBAN SANITATION POLICY
TOWARDS CITY WIDE SANITATION